



0075086

Department of Energy
Richland Operations Office
P.O. Box 550
Richland, Washington 99352
JAN 02 2008

08-SED-0076

Mr. John P. Martell, Manager
Radioactive Air Emissions Section
State of Washington
Department of Health
Office of Radiation Protection
P.O. Box 47827
Olympia, Washington 98504-7827

Dr. Oliver S. Wang
Nuclear Waste Program
State of Washington
Department of Ecology
3100 Port of Benton Blvd.
Richland, Washington 99354

RECEIVED
JAN 09 2008
EDMC

Addressees:


REPORT OF CLOSURE AND DEREGISTRATION OF EMISSION UNIT EP-323-01-S,
MECHANICAL PROPERTIES LABORATORY (323 BUILDING), 300 AREA HANFORD
SITE

Enclosed is the Report of Closure for the EP-323-01-S Emission Unit (323 Building) in the 300 Area of the Hanford Site. This report is submitted pursuant to Washington Administrative Code 246-247 "Radiation Protection - Air Emissions."

The Ecology letter to Keith A. Klein, RL, and John C. Fulton, Washington Closure Hanford LLC, from Doug Hendrickson, State of Washington, Department of Ecology (Ecology), "Approval to Withdraw Eleven 300 Area Facilities from the Hanford Air Operating Permit (AOP)," dated October 30, 2006, provides documentation to withdraw emission unit (AOP ID No. 359) from the Hanford Site AOP and is provided to Ecology, consistent with Ecology's role as lead for the AOP.

If you have any questions, please contact Pete J. Garcia, Jr., Director, Safety and Engineering Division, on (509) 372-1909.

Sincerely,


for Rob G. Hastings, Acting Assistant Manager
for Safety and Engineering

SED:MFJ

Enclosure

cc: See page 2

Addressees
08-SED-0076

-2-

JAN 02 2008

cc w/encl:

B. C. Barfuss, PNNL

J. M. Barnett, PNNL

S. D. Berven, WDOH

L. J. Brandon, PNNL

M. E. Carlson, PNNL

J. A. Hedges, WDOE

N. A. Homan, FHI

L. F. Kuga, PNNL

J. W. Schmidt, WDOH

G. T. Thornton, PNNL

J. G. Woolard, WCH

D. M. Yasek, WCH

D. Zhen, EPA

Environmental Portal, LMSI

Admin Record: (file: 323 Building) H-0-7

Report of Closure/Permit Revision

NOTE: Any increase to abated or unabated PTE requires a full NOC modification

REASON FOR CHANGE

Submittal Date: 10/16/2007

Submittal Type: Other Submittal

☐ **NOC Application Revision**

New NOC Rev Number: _____

☒ **Condition Change/ Clarification**

WDOH Condition Number: N/A

AOP Condition Number: See below

☐ **ALARACT Revision**

New ALARACT Rev Number: _____

PROJECT IDENTIFICATION

Project Title: Report of Closure and Deregistration of Emission Unit EP-323-01-S

Current NOC Application Number: AOP Permit 00-05-006, Renewal 1/
License Number FF-01

AEI ID Number (AOP Emission Unit Number(s)): 359

Current WDOH Approval Letter Number(s): N/A

WDOH NOC ID Number: N/A

DESCRIPTION OF CHANGE

Number of Attachments 2

Report of Closure and Deregistration of Emission Unit EP-323-01-S, Mechanical Properties Laboratory (323 Building)

Summary/Introduction

In accordance with Washington Administrative Code 246-247-080(6), this report of closure is being submitted to the State of Washington Department of Health (WDOH) to document cessation of radionuclide emitting activities in the Mechanical Properties Laboratory (323 Building) that exhausts through emission unit (stack) EP-323-01-S. This report is also intended to provide a basis for removal of the emission unit (AOP No. 359) from the Hanford Site Air Operating Permit No. 00-05-006, Renewal 1.

The following information is provided in this document:

- Date of closure
- Remaining material
- Assessment of potential continued emissions
- Future plans
- Emissions control and monitoring

1. Date of closure: September 11, 2007. This is the date that the stack was physically capped, electrical lines lifted and gaped, and all HEPA filters removed and ductwork capped.

2. Remaining material: All radioactive material other than fixed contamination on surfaces and contamination in areas that are inaccessible and undisturbed (i.e. hot cell in room 5) have been removed

from the building. Most areas of the building have less than minimum detectable activity (MDA) α and β - γ from smears and direct readings. A trench near the hot cell measured 5,000 dpm/100 cm² β - γ and <MDA α from direct surveys. A smear for the trench measured <MDA for β - γ and α . Contamination measurements for the hot cell interior ranged from <MDA to 2750 dpm/100 cm² β - γ with all α smears measuring <MDA. Attachment 1 provides copies of the Radiological Survey Reports for the 323 Building documenting surveys performed in the lunch room, maintenance shop, primary HEPA filter, and in and around the hot cell during August and September 2007.

3. Assessment of potential continued emissions: There are no activities with the potential for radioactive air emissions taking place in the 323 Building venting to stack EP-323-01-S. The exhaust fan for this emission unit is shut down and a metal cover plate is secured over the outlet of the stack (see Attachment 2).

4. Future plans: The 323 Building has been vacated and placed in closure status for eventual demolition.

5. Emissions control and monitoring: The exhaust for emission unit EP-323-01-S is shut down and the electrical leads have been lifted from the blower motor. A metal cover plate has been secured over the outlet of the stack and primary and secondary HEPA filters have all been removed. Activities with the potential for radioactive air emissions have ceased and active ventilation has also ceased; therefore emissions control and monitoring are no longer needed.

Based on this report of closure it is requested that emission unit EP-323-01-S be deregistered and removed from the Hanford Site Air Operating Permit (AOP Permit 00-05-006, Renewal 1/ License Number FF-01).

FOR WDOH USE ONLY

Data Entry Completed By: _____ Date: _____

Attachment 1
RADIOLOGICAL SURVEY REPORTS FOR THE 323 BUILDING
(best available provided)

Battelle <small>The Business of Innovation</small>		Radiological Control Record Radiological Survey Report		Survey Report Number 329-07-08-095	
Date 8/29/2007	Time 1130	Purpose of Survey: <input type="checkbox"/> Routine <input checked="" type="checkbox"/> Demand <input type="checkbox"/> RCHP Survey after cleanout of cell			
Room(s) / Item(s) 5 hot cell interior		Building 323	TWD(s)# RCP 5.5.11	RWP Number 323-07-002	

← NORTH

Door

WINDOW

COPY

General area survey inside hot cell <.5 mrem/hr beta gamma

Dose Rate Measurements										
Item Description	Inst. #	Distance	OW	CW	CF _{beta}	mrem/h β	CF _{gamma}	mrem/h γ	CF _{total}	Smear #

Contamination Measurements							
#	Location	β-γ	Inst. #	β-γ CF	α	Inst. #	α CF
①	South Manipulator fingers	593	1	2.5	<MDA	1	2.8
②	North Manipulator fingers	<MDA	1	2.5	<MDA	1	2.8
③	Lower tray north side	145	1	2.5	<MDA	1	2.8
④	Floor north side	158	1	2.5	<MDA	1	2.8
⑤	Floor south side	<MDA	1	2.5	<MDA	1	2.8
⑥	Center tray	2750	1	2.5	<MDA	1	2.8

Instruments Used		1. <u>SCLL4-0018</u>	2. <u>ICEB4-1513</u>	3. _____	4. _____
5. _____	6. _____	7. _____	8. _____	9. _____	

Signature on this survey form indicates that 1) the instruments above have been source checked in accordance with RCP-5.5.06, Portable Radiological Survey Instruments, and 2) RCT actions in the applicable TWDs related to this job have been reviewed in accordance with RCP-3.4.09, Radiological Job Coverage and Emergency Response.

γ = mrem/h gamma ### β = mrem/h beta ### n = mrem/h whole body neutron * = mrem/h Contact E = mrem/h Extremity

D# = Direct Survey (dpm/100cm²) **MS** = Smear (dpm/smear) **AS** = Air Sample **TS** = Technical Smear (dpm/100 cm²) **SS** = Special Smear (dpm/100 cm²)

<MDA: MDAs for portable survey instruments are found in RCP-5.5.11, Radiological Support, Section 4.

SAC-4 = < dpm α: BC-4 = < dpm β-γ: Ludlum-2229 = < 66 dpm β-γ and = < 13 dpm α: Ludlum 2200/02L E = < dpm β-γ

RCT Name and Signature <u>Steve Marozik</u>	Date <u>8/29/2007</u>	Reviewed By RCT Supervisor <u>[Signature]</u>	Date <u>8-31-07</u>
------------------------------------------------	--------------------------	--------------------------------------------------	------------------------

16.0/a026e7y0.doc (1/05)

76.0/n028-7y0.dot

Survey Report Number
329-M13-0007

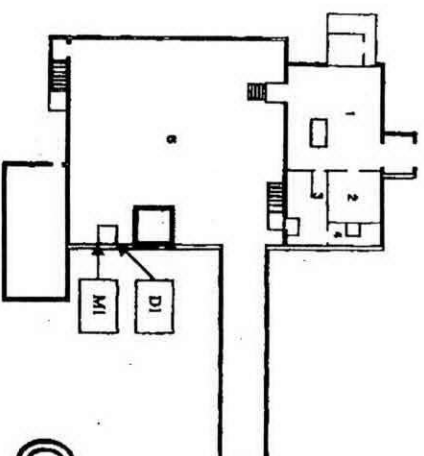
Survey Report Number
329-M13-0007

Survey Report Number
329-M13-0007

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329-M13-~~000~~007

Survey Report Number
329-M13-0007

Survey Report Number	329-M13-00007
F68768	
RWP Number	



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[illegible]

Battelle <small>The Business of Innovation</small>		Radiological Control Record		Survey Report Number 329-M11-021007	
Radiological Survey Report					
Date 8-30-07	Time 1430	Purpose of Survey: <input checked="" type="checkbox"/> Routine <input type="checkbox"/> Demand <input type="checkbox"/> RCHP			
Monthly contamination and dose rates		F59766			
Room(s) / Item(s) Lower room RMA	Building 323	TYWD(s)# NA		RWP Number NA	

D1 Bench tops and tools
 D2 chairs
 D3 telephone receivers

 All areas
 <20 uRem/h unless noted

Dose Rate Measurements										
Item Description	Inst. #	Distance	OW	CW	CF _{beta}	mrem/h β	CF _{gamma}	mrem/h γ	CF _{total}	Smear #

Contamination Measurements							
#	Location	β - γ	Inst. #	β - γ CF	α	Inst. #	α CF
M1,2	Floor	<MDA	1,2	10	<MDA	3	7
D1-3	See above for locations	<MDA	1,2	10	<MDA	3	7

Instruments Used	1. CMEBC-0006	2. DTHNC-0263	3. ACHN2-0634	4. LMBC3-0096
5. _____	6. _____	7. _____	8. _____	9. _____

Signature on this survey form indicates that 1) the instruments above have been source checked in accordance with RCP-5.5.06, Portable Radiological Survey Instruments, and 2) RCT actions in the applicable TYWDs related to this job have been reviewed in accordance with RCP-3.4.06, Radiological Job Coverage and Emergency Response.

γ = mrem/h gamma ### β = mrem/h beta ### n = mrem/h whole body neutron * = mrem/h Contact E = mrem/h Extremity
 [DS] = Direct Survey (dpm/100cm²) [MS] = Smear (dpm/swab) [AS] = Air Sample [TS] = Technical Smear (dpm/100 cm²) [SS] = Special Smear (dpm/100 cm²)

<MDA: MDAs for portable survey instruments are found in RCP-5.5.11, Radiological Surveys, Section 4.

SAC-4 = < dpm α : BC-4 = < dpm β - γ : Ludlum-2829 = < dpm β - γ and = < dpm α : Ludlum 2200/G2LE = < dpm β - γ

RCT Name and Signature <i>Mitch Hewitt</i>	Date 8-30-07	Reviewed By RCT Supervisor <i>Steve Brina</i>	Date 8-31-07
-----------------------------------------------	------------------------	--------------------------------------------------	------------------------

(02/03)

The Business of Innovation

Survey Report Number
329-W18-023007

Radiological Survey Report

The Business of Innovation

Date	Time
------	------

corrimination and dose rate survey

하

WP# F84860

Room(s) / Item(s)

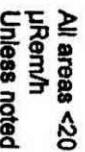
Building

1

Hot Cell Area

323

N/A



COPY

[illegible]

Signature on the survey form indicates that 1) the instruments above have been source checked in accordance with RCP-3.5.06, Portable Radiological Survey Instruments, and 2) RCT actions in the applicable TWDA related to this job have been reviewed in accordance with RCP-3.4.06, Radiological Job Coverage and Emergency Response.

[illegible]

4400: MOCs for portable survey instruments are found in RCP-5.11, Radiological Survey, Section 4.				
SVC-4 <	dm cc, BCL <	dm B-7 and <	dm cc, LUTUM 2200C2LE <	dm B-7
RCT Name and Shipping Batch Number	0-2-57	0-2-57	0-2-57	0-2-57
Date	0-2-57	0-2-57	0-2-57	0-2-57
Reviewed By/RCT Survey/for	0-2-57	0-2-57	0-2-57	0-2-57
Signatures	0-2-57	0-2-57	0-2-57	0-2-57
Date	0-2-57	0-2-57	0-2-57	0-2-57

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**Radiological Control Record
Radiological Survey Report**

Survey Report Number
329-W18-at-1587

Date: **8-15-07** Time: **0830** Purpose of Survey: ☒ Routine ☐ Demand ☐ RCHP
contamination and dose rate survey WP# F94880

Room(s) / Item(s): **Hot Cell Area** Building: **323** TWD(s): **N/A** RWP Number: **N/A**

D1 Desk
D2 chair
D3 telephone

All areas <20 μ Rem/h Unless noted

Dose Rate Measurements										
Item Description	Inst. #	Distance	OW	CW	CF _{beta}	mrem/h β	CF _{gamma}	mrem/h γ	CF _{total}	Smear #

Contamination Measurements							
#	Location	β - γ	Inst. #	β - γ CF	α	Inst. #	α CF
M1	Floor	<MDA	1,2	10	<MDA	3	7
M2	Transfer port door	<MDA	1,2	10	<MDA	3	7
D1-3	See above for locations	<MDA	1,2	10	<MDA	3	7

Instruments Used 1. **CMEB3-0032** 2. **DTEB9-0378** 3. **ACHN2-0800** 4. **LMBC3-0097**
5. 6. 7. 8. 9.

Signature on this survey form indicates that 1) the instruments above have been source checked in accordance with RCP-5.5.06, Portable Radiological Survey Instruments, and 2) RCT actions in the applicable TWDs related to this job have been reviewed in accordance with RCP-3.4.09, Radiological Job Coverage and Emergency Response.

γ = mrem/h gamma ### β = mrem/h beta ### η = mrem/h whole body neutron * = mrem/h Contact E = mrem/h Extremity
 [DS] = Direct Survey (dpm/100cm²) [MS] = Smear (dpm/smear) [AS] = Air Sample [TS] = Technical Smear (dpm/100 cm²) [SS] = Special Smear (dpm/100 cm²)

<MDA: MDAs for portable survey instruments are found in RCP-5.5.11, Radiological Surveys, Section 4.
 SAC-4 = < dpm α : BC-4 = < dpm β - γ : Ludlum-2529 = < dpm β - γ and = < dpm α : Ludlum 2200G2LE = < dpm β - γ

RCT Name and Signature: **Mitch Hawkes** Date: **8-15-07** Reviewed By: **Steve Smith** Date: **8-17-07**

76.0/a028e7y0.doc (02/03)

Battelle <small>The Business of Innovation</small>		Radiological Control Record Radiological Survey Report		Survey Report Number 329-W18-060467	
Date 8-1-07	Time 0800	Purpose of Survey: <input checked="" type="checkbox"/> Routine <input type="checkbox"/> Demand <input type="checkbox"/> RCHP contamination and dose rate survey		WP# F94880	
Room(s) / Item(s) Hot Cell Area	Building 323	TWD(s)# N/A	RWP Number N/A		

D1 Desk
D2 chair
D3 telephone

**All areas <20
μRem/h
Unless noted**

Dose Rate Measurements										
Item Description	Inst. #	Distance	OW	CW	CF _{Rate}	mrem/h β	CF _{Quanta}	mrem/h γ	CF _{Other}	Smear #

Contamination Measurements							
#	Location	β-γ	Inst. #	β-γ CF	α	Inst. #	α CF
M1	Floor	<MDA	1,2	10	<MDA	3	7
M2	Transfer port door	<MDA	1,2	10	<MDA	3	7
D1-3	See above for locations	<MDA	1,2	10	<MDA	3	7

Instruments Used		1. CMEB3-0270	2. DTEB9-0554	3. ACHN2-0600	4. LMBC3-0067
5. _____	6. _____	7. _____	8. _____	9. _____	

Signature on this survey form indicates that 1) the instruments above have been source checked in accordance with RCP-5.5.06, Portable Radiological Survey Instruments, and 2) RCT actions in the applicable TWDs related to this job have been reviewed in accordance with RCP-3.4.09, Radiological Job Coverage and Emergency Response.

☉ = mrem/h gamma ☉☉ = mrem/h beta ☉☉☉ = mrem/h whole body neutron ☉☉ = mrem/h Contact E = mrem/h Extremity
 [DS] = Direct Survey (dpm/100cm²) [MS] = Smear (dpm/smear) [AS] = Air Sample [TS] = Technical Smear (dpm/100 cm²) [SS] = Special Smear (dpm/100 cm²)
 <MDA: MDA's for portable survey instruments are found in RCP-5.5.11, Radiological Surveys, Section 4.
 SAC-4 = < dpm α; BC-4 = < dpm β-γ; Ludlum-2929 = < dpm β-γ and = < dpm α; Ludlum 2200/GZLE = < dpm β-γ

RCT Name and Signature Mitch Hawkes	Date 8-1-07	Reviewed By RCT Supervisor Steve Blivins	Date 8/1/07
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Battelle

The Business of Innovation

Radiological Control Record
Radiological Survey Report

Survey Report Number
329-W18-080307

radiological survey report

Purpose of Survey: ☒ Routine ☐ Demand

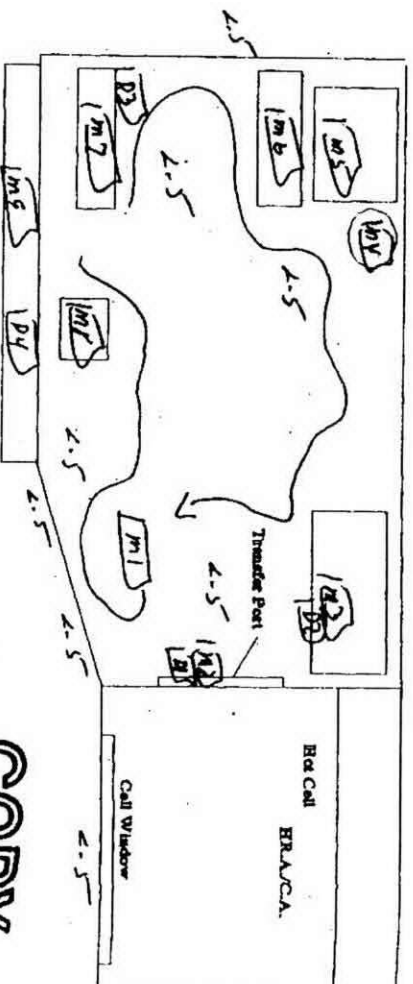
confirmation and dose rate survey

Building	TWID(s)#
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323	5-5-
-----	------

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
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All AP & AS < 20 MARCH 2017 / HRE



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[illegible]

Contamination Measurements									
#	Location	Pr	Instr. #	Pr-CF	α	Instr. #	α	CF	
m1	Floor	LMR04	12	10	LMR04	3	7		
m2-m3	part, ACQUA TAG CRACKS, down	LMR04	12	10	LMR04	3	7		
01-04	part, ACQUA TAG CRACKS	LMR04	12	10	LMR04	3	7		

Signature on this survey form indicates that 1) the instruments above have been source checked in accordance with RCP-6.1.04, Portable Radiological Survey Instruments, and 2) RCT actions in the applicable TMDs related to this job have been reviewed in accordance with RCP-6.1.04, Radiological Job Coverage and Emergency Response.

[illegible]

SAC-A <<	from: BG-A <<	from: P-1, Uthman 2009 <	from: P-1 and <<	from: Uthman 2009A2.E <<	dnf=
PGT Mims and Signature					
PGT Lenz and Signature					
73.10.602.6e6n0.doc					
		Date 9-3-07	Reviewed by RCI Supervisor		Date 9/4/07
					(02/07/03)

Attachment 2
PHOTOS OF THE CAPPED STACK, LIFTED LEADS, AND HEPA FILTER BANKS
FROM THE 323 BUILDING

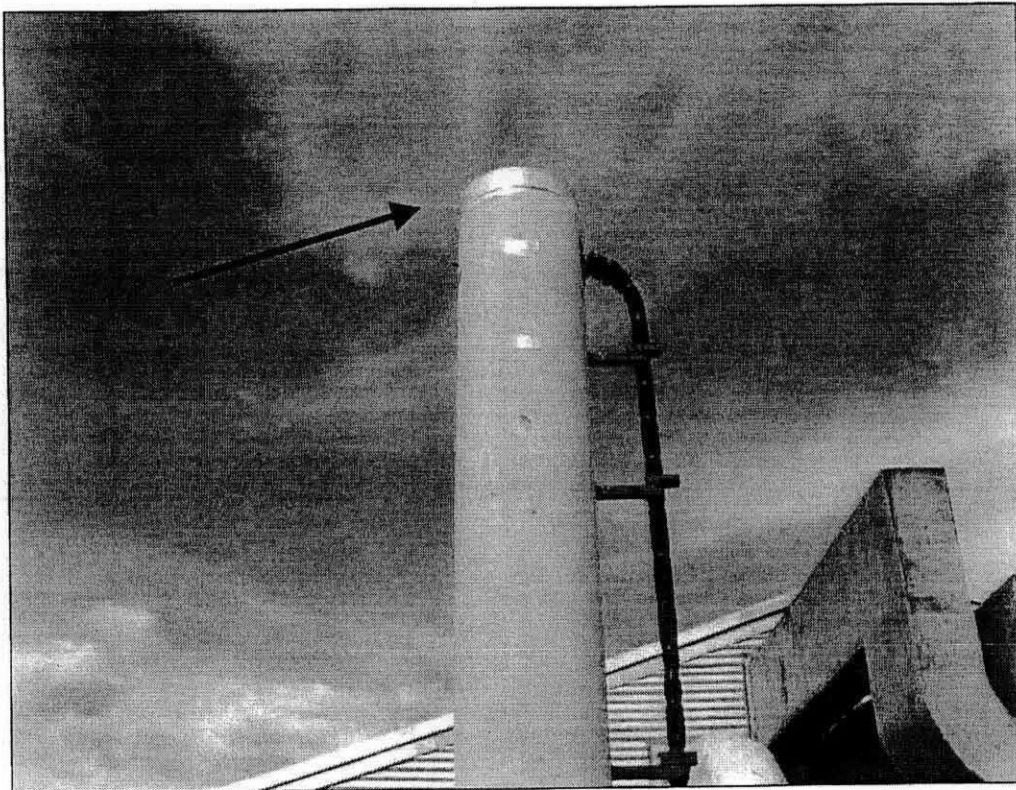


Figure 1. 323 capped stack.

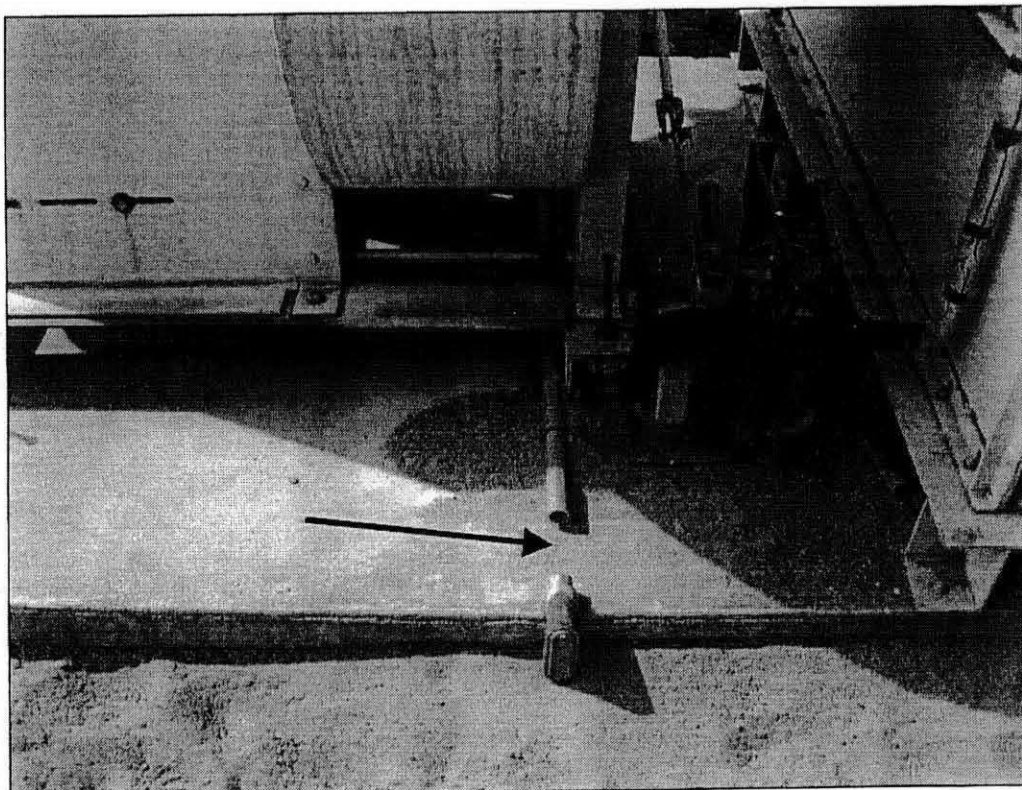


Figure 2. Lifted electrical leads from the 323 blower motor.

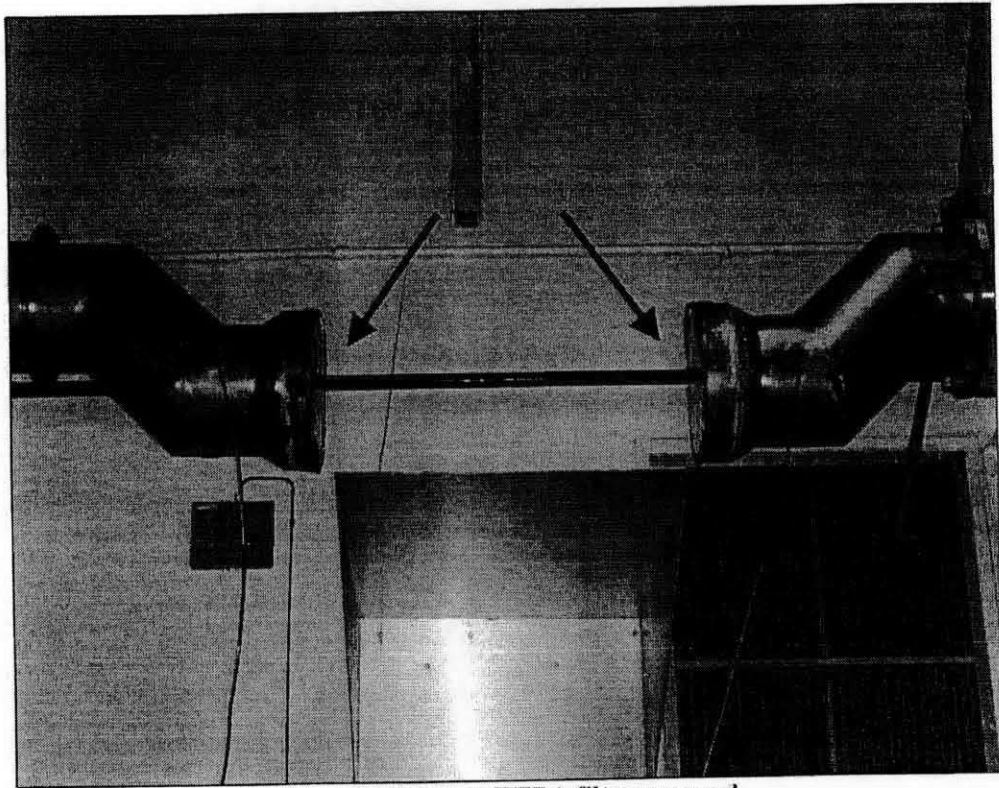


Figure 3. Primary HEPA filter removed.

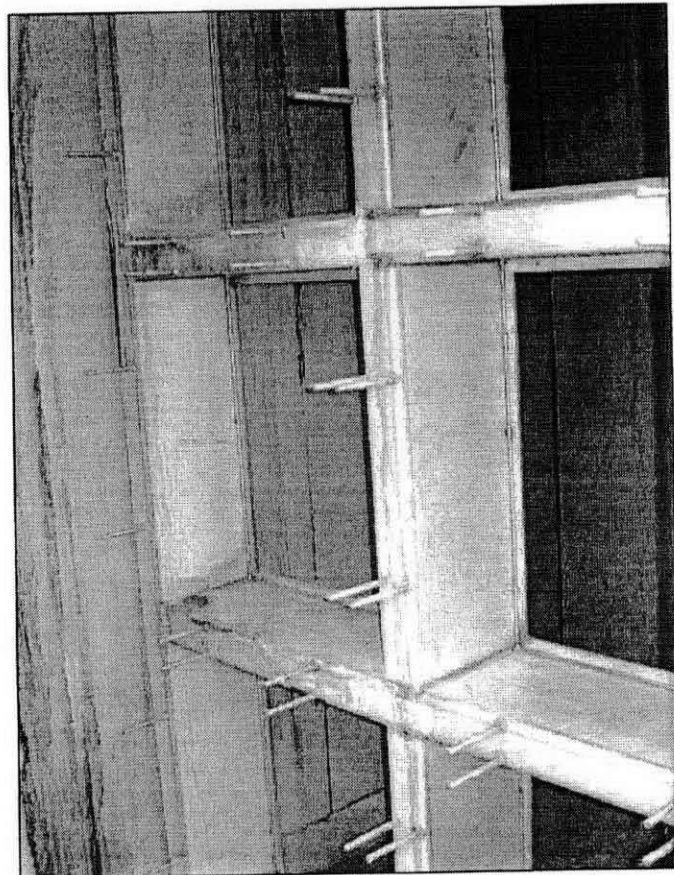


Figure 4. Secondary HEPA filters removed.